

## **Changes in Safety Net Use During the Great Recession**

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**Abstract:** We examine how participation in social safety net programs differs by income-to-poverty levels, and how that relationship differs before and after the Great Recession. We define income-to-poverty level based on the average of two years of merged CPS data. We find changes in both the level and the distribution of safety-net program participation during the Great Recession.

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## I. Introduction

The Great Recession (GR) is widely characterized as the worst economic downturn since the Great Depression. Unemployment rates reached about 10 percent, and median unemployment duration was nearly double the peak durations reached in every recession since 1980. Consumer credit collapsed and homeowners saw housing prices plummet, thus consumers were unlikely to be able to use these forms of credit to weather periods of unemployment. At the same time, prices for necessities -- food and energy -- were relatively high.

As might be expected in a period of such dire economic circumstances, participation in safety net programs increased. For example, the percent of households reporting receipt of SNAP benefits rose from 7.7 percent in 2007, to almost 12 percent during the Great Recession. Receipt of EITC and Unemployment Insurance benefits also both increased by about three percentage points over this period, while receipt of public assistance through Temporary Assistance to Needy Families (TANF) or General Assistance remained essentially flat.

The fraction of households with low incomes increased over this period, for example the fraction of households with income-to-poverty ratios less than 300 rose from about 37.9 percent to 39.7 percent. Despite this, we find that very little of the rise in program participation can be explained by income levels alone. Most of the increase in program receipt is associated with increases in receipt conditional on household income.

We provide a detailed examination of program receipt by income-to-poverty level, pre- and post-Great Recession, in order to determine at what points in the

income-to-poverty distribution different elements of the safety net find purchase. In addition to program receipt, we show what fraction of households' total resources is comprised of program benefits, and how this changes with income-to-poverty level, pre-and post-recession.

## II. Data and Methods

We use Current Population Survey (CPS) data from 2001 through 2011. To obtain information on program receipt and income, we use March CPS data. In order to include information on Food Insecurity, a measure of material hardship collected in the December CPS supplements, we match households that appear in both the December and March CPS data 4 months apart. In addition, we limit the sample to households that can be matched across two years of March data so that we can observe two years' worth of program and income data. This allows us to observe one-year transitions across program participation, income levels, and food security status. The result of this matching process gives us a sample of about 4,500 households per year who do not change residence and participate in both surveys. Note, however, that because of a change in the household identifier between 2003 and 2004, we are unable to match across those years. Limiting our sample to households with children and income of 300 percent or less of the poverty line leaves us with approximately 750 observations per year.

For each household in each year, we create a measure of income-to-poverty threshold, which we average across two years. Thus, we examine the relationship between program participation and the two-year average of income-to-poverty.

There is a fair amount of measurement error and volatility in the year-to-year reports of income-to-poverty thresholds. For example, if we create 20 percentage-point bins in the income to poverty ratio, only about 16 percent of households, on average, are in the same 20-point bin across the two years. By averaging across years, we reduce the transitory noise in our measure of a household's position in the income distribution. We will focus on program participation as it varies with this relatively more stable measure of income.

We focus our attention on households for which the two-year average income-to-poverty ratio is below 300. We use locally weighted polynomial regressions, and plots thereof, to examine the relationship between average income-to-poverty ratios and program receipt for SNAP, EITC, UI, and TANF. In addition to receipt, we examine the fraction of a household's total resources that are comprised of the benefits from each of the different programs. The locally weighted polynomial regressions allow us to examine how participation in these income-support programs varies across the income-to-poverty distribution.

### III. Results

The increase in safety net program participation is not surprising given that incomes fell during the Great Recession, and these programs are meant to buffer households in bad times. However, income declines per se turn out not to be a particularly good explanation for the increase in program receipt. Instead, participation increased sharply after conditioning on a household's income-to-poverty ratio. For example, we separated the change in program participation for

SNAP in to the portion coming from the change in the fraction of households with incomes below the poverty line, and the portion coming from a change in the relationship between having an income below the poverty line and program receipt. With a Oaxaca-style decomposition,<sup>1</sup> we find that virtually none of the increase in SNAP receipt is explained by an increase the fraction of households with average income-to-poverty below 100, and virtually all of it comes from higher levels of participation among poor households. The finding is similar for receipt of EITC and UI as well, and is robust to other specifications. For example, if we use a quadratic in average income-to-poverty as the explanatory variables, we continue to find that changes in income-to-poverty levels explain very little of the rise in program receipt. Instead, the increase in receipt of benefits from safety-net programs appears to be driven by increased participation among those with low incomes after the GR. Next we closely examine the relationship between a household's average income-to-poverty levels and program participation among those with low incomes.

For households with average income-to-poverty ratios below 300, Figure 1 shows the relationship between income-to-poverty ratio and receipt of SNAP, EITC, UI, and TANF, for the pre- and post-GR years. The relationships are quite different across the programs. Receipt falls with increases in income-to-poverty ratios for SNAP and TANF, with participation levels in SNAP substantially higher than TANF. Receipt of UI, on the other hand, rises with income-to-poverty ratio, while receipt of EITC is hump-shaped, with the highest participation rates just above the poverty line.

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<sup>1</sup> In the decomposition, we used the pre-GR years coefficients to weight the change in the Xs, and the X-value for the GR-years to weight the change in the coefficients.

The changes in program receipt during the Great Recession are striking. TANF is the only program for which there is not an upward shift in participation during the Great Recession. On the other hand, participation in SNAP, EITC, and UI all shift up for each income-to-poverty level. For example, during the Great Recession, a household with an income-to-poverty ratio of 200 was as likely to receive EITC as a household at an income-to-poverty ratio of 160 in the years preceding the Great Recession. For incomes levels below the poverty line, the shift up in SNAP participation is almost 10 percentage points. For income levels above 200 percent of the poverty level, the shift up is about half as large. While Figure 1 does not display standard errors, we note that if we treat the shift up as a parallel shift for the GR years, we can reject that the lines are the same for the GR and non-GR years at all conventional levels of statistical significance.

Figure 2a shows the shift in the fraction of total resources these programs provide to households. The vertical axis is the value of a household's program benefits as a fraction of disposable resources, where the denominator includes cash income from employment and cash transfers (e.g. UI, EITC and TANF), plus the dollar value of SNAP, school lunch, and energy assistance. The figure shows that for households below the poverty line, SNAP benefits dwarf all others. There is a steep decline in the fraction of resources from SNAP up to incomes just above the poverty line. In addition, there is a large increase in the fraction of resources from SNAP during the Great Recession for households with incomes below the poverty line.

Figure 2b presents the same information for EITC, TANF, and UI, but omits the SNAP line so that the scale allows one to see the features of these curves. The

contributions of TANF drop very steeply up to the poverty line. Counter-intuitively, TANF comprised a higher fraction of household resources in the pre-GR years. Recall that the fraction of households receiving TANF did not rise in the GR years, and TANF appears to have played very little counter-cyclical role in the GR (Bitler and Hoynes, 2014).

On the other hand, the fraction of total resources coming from the other safety net programs rose during the Great Recession. There is a shift up in resources from the EITC during the GR years. The difference narrows for households with incomes above the poverty line, but the curve is decidedly higher at most income-to-poverty levels. Unemployment Insurance, on the other hand, in the years prior to the Great Recession, was responsible for a flat 1% of household resources regardless of income to poverty level. In the GR years, however, the fraction shifted up, with the largest increase for households with incomes between 100 and 240 percent of the poverty threshold and smaller increases for households at the tails of the income-to-poverty distribution.

#### IV. Explanations for the Changes in Patterns of Safety Net Use

The reasons for these changes in program receipt and impact during the Great Recession differ for each program and we will discuss each in turn.

Because of the dramatic increase in the unemployment rate during the GR, it not surprising that there are increases in both the fraction of low-income households receiving UI and the fraction of total resources received from UI. While there was no systematic programmatic change to UI in this period, the conditions in

the economy dictated that most people who lost a job would be eligible for extended UI benefits for a period up to 99 weeks. This could in turn increase participation by reducing the likelihood that an individual would exit unemployment by either finding a new job or dropping out of the labor force. Rothstein (2011) estimates that extended UI benefits raised the unemployment rate by less than half a percentage point in early 2011.

SNAP experienced some programmatic changes during the period, both through expanded eligibility and a temporary increase in benefit levels that was funded as part of the 2009 American Recovery and Reinvestment Act (ARRA) stimulus. The increased benefit levels likely increased take-up among the eligible, and certainly increased the fraction of resources available to a household that can be attributed to SNAP. Further, there were changes to the program's income and asset criteria that allowed more households to qualify for benefits. Ganong and Liebman (2013) estimate these eligibility changes account for about 8 percent of the increase in enrollments during the GR. Another change to SNAP policy came from the temporary suspension of time limits on benefit receipt among able-bodied adults without dependents (ABAWD). During normal economic conditions, ABAWDs are only permitted to receive benefits for three months during a 3-year period. The time limits are temporarily suspended during periods of high unemployment like the GR. Ganong and Liebman (2013) estimate that 10 percent of the increase in SNAP participation during the GR is explained by the temporary suspension of time limits.



EITC shows both an increase in participation and in share of a household's resources coming from the program, especially for households with income-to-poverty levels around 100 to 150. This could partially be explained by program changes to the EITC that were enacted with ARRA: there was a temporary increase in benefits for those with three or more qualifying children, and the beginning point for the phase-out range was increased for all married couples filing jointly. These temporary changes have been authorized through 2017.

## V. Conclusions

Despite the increase in receipt of various safety net programs during the Great Recession, households were not fully insured against economic distress. Figure 3 shows that economic distress, as measured by the rate of reported food insecurity, increased during the Great Recession for households at the same point in the income-to-poverty distribution. The increase is larger for relatively better-off households. Households with incomes below the poverty line, for whom SNAP (and to a lesser extent, TANF) make up a relatively larger portion of their available resources both before and during the GR, showed little increase in economic distress during the GR. Note, however, that the rate of economic distress is already quite high in these households – over 30 percent – even during good economic times. Those households for whom EITC and UI comprise a relatively larger share of available resources appear to have seen a larger increase in hardship, with rates of food insecurity conditional on income increasing almost 5 percentage points in some places. This could reflect a decline in total resource availability, because the

programs do not replace 100 percent of lost earnings, and the combination of these programs would not completely offset the loss of income if someone in the family lost a job.

## References

Bitler, Marianne and Hilary W. Hoynes (2014). "The More Things Change, the More They Stay the Same? The Safety Net and Poverty in the Great Recession." Forthcoming, *Journal of Labor Economics*.

Ganong, Peter and Jeffrey Liebman (2013). "The Decline, Rebound, and Further Rise in SNAP Enrollment: Disentangling Business Cycle Fluctuations and Policy Changes." National Bureau of Economic Research Working Paper #19363.

Rothstein, Jesse (2011). "Unemployment Insurance and Job Search in the Great Recession." *Brookings Papers on Economic Activity*, Fall 2011, pp. 143-210.

Figure 1: Participation Rates in Safety Net Programs by Income-to-Poverty ratio, Before and After the Great Recession

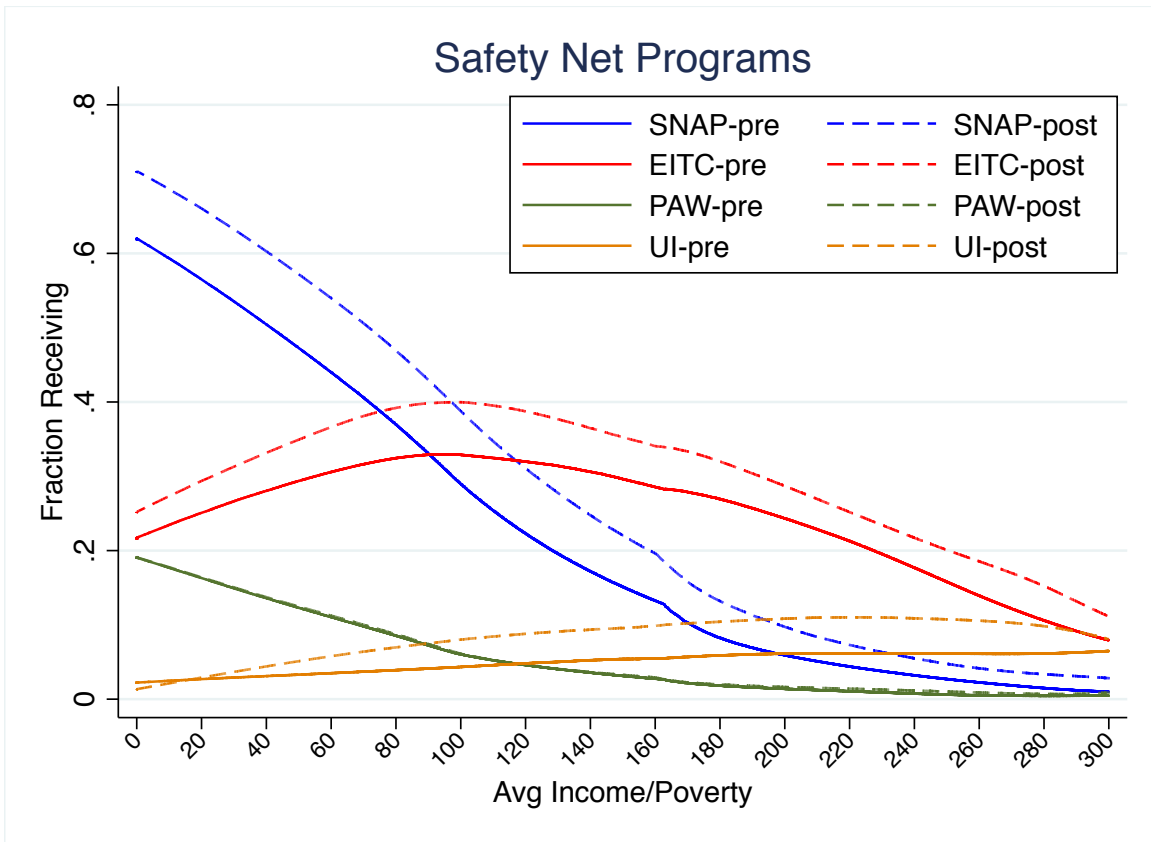


Figure 2a: Share of Household Resources from Safety Net Programs, Before and After the Great Recession

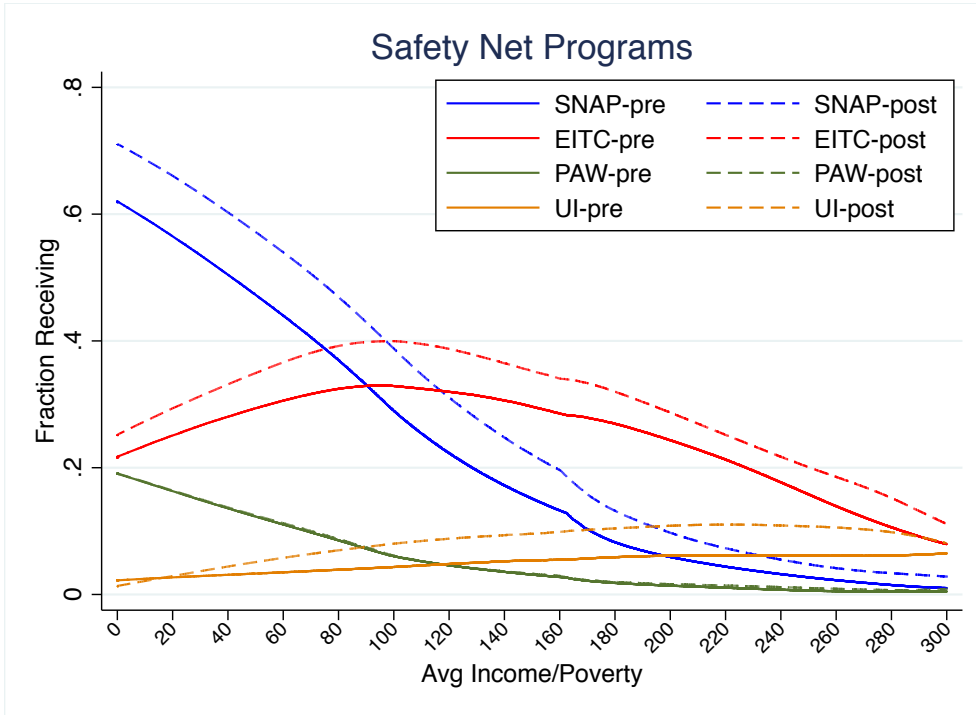


Figure 2b: Share of Household Resources from Safety Net Programs, Excluding SNAP

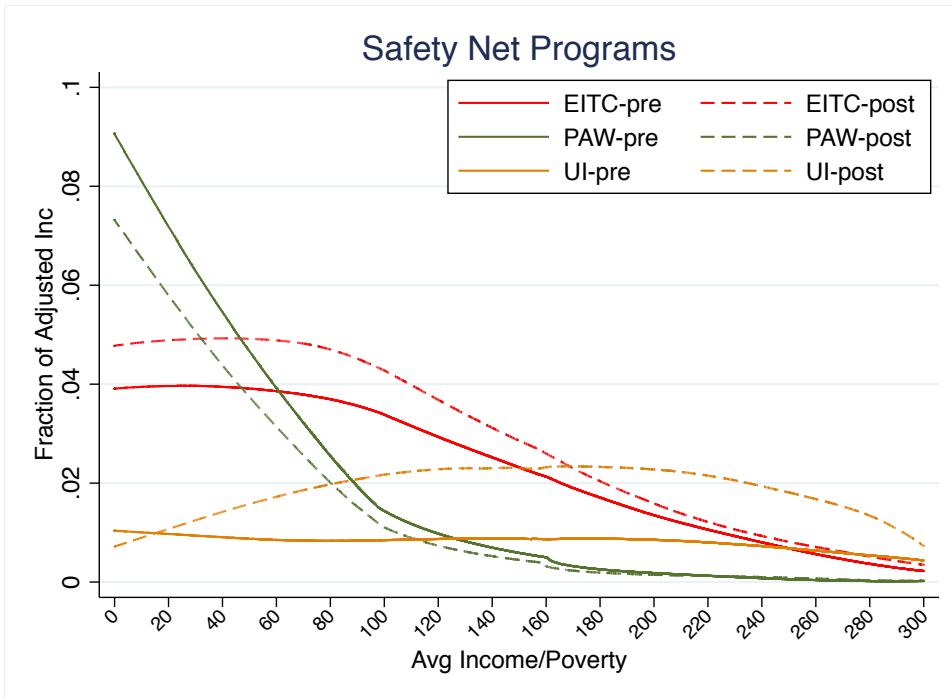


Figure 3: Rate of Material Hardship by Income-to-Poverty ratio, Before and After the Great Recession

